

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-269751  
(43)Date of publication of application : 05.10.1999

---

(51)Int.Cl. D04H 1/48  
D04H 1/20  
D04H 1/42

---

(21)Application number : 10-068654 (71)Applicant : ASAHI CHEM IND CO LTD  
(22)Date of filing : 18.03.1998 (72)Inventor : KATO JINICHIRO  
FUJIMOTO KATSUHIRO

---

## (54) ARTIFICIAL LEATHER AND BASE FABRIC THEREFOR

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain a basic fabric for an artificial leather excellent in soft touch feeling, abrasion resistance, stretchability and color developing properties by interlacing and integrating a woven or a knitted fabric made of trimethylene terephthalate fibers.

**SOLUTION:** This base fabric for an artificial leather is formed by inserting a woven or a knitted fabric comprising trimethylene terephthalate having 0.4–2 intrinsic viscosity, ≥2.5 g/d strength, 20–100% elongation and 25–30 g/d modulus of elasticity between two webs of ultrafine staple fibers having ≤0.5 d single fiber fineness and interlacing or integrating the woven or knitted fabric with the webs by needle punching or with a high-pressure water stream. The base fabric is impregnated with 3–20 wt.% of a polymeric elastic body such as a polyurethane and then carrying out the raising treatment of the surface to afford a sueded artificial leather.

**\* NOTICES \***

JPOL and INPI are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

---

**CLAIMS**

---

**[Claim(s)]**

[Claim 1]In a base fabric for artificial leather which a super-thin staple fiber of 0.5 denier or less confounds in textiles or knitting, and single fiber fineness, A base fabric for artificial leather, wherein polytrimethylene terephthalate textiles whose elastic moduli of limiting viscosity 2.5 or more g/d and ductility are 20 to 100%, and 0.4~2, and intensity are 25 – 30 g/d are used as textiles which constitute these textiles or knitting.

[Claim 2]Artificial leather which makes it with the feature to come to carry out impregnating grant of the polymeric elastomer an inside of the base fabric for artificial leather according to claim 1.

[Claim 3]Artificial leather, wherein at least one side of the surface of the artificial leather according to claim 2 comprises a fiber layer with which a super-thin staple fiber became entangled and is moreover napped.

---

[Translation done.]

**\* NOTICES \***

JPO and INPI are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

---

**DETAILED DESCRIPTION**

---

**[Detailed Description of the Invention]****[0001]**

[Field of the Invention]This invention relates to the base fabric for artificial leather, and artificial leather. It excels in soft aesthetic property, abrasion resistance, stretchability, and color enhancement in more detail, and it is comfortable to wear and is related with the base fabric for [ to make the artificial leather which was especially excellent in the color enhancement of a dark color, and endurance / suitable ] artificial leather, and artificial leather using it.

**[0002]**

[Description of the Prior Art]Generally it is known widely that will carry out impregnating grant of various kinds of polymeric elastomers at the base fabric for artificial leather which made woven knitted goods and a super-thin staple fiber confound, and artificial leather will be obtained conventionally. For example, the nap-raising artificial leather of the suede tone thru/or the nubuck tone in which surface super-thin textiles became fluffy is widely used not only for the garments fields, such as a coat, a skirt board, and a jacket, but for the non-garments fields, such as shoes, a bag, furniture, and a car sheet. These nap-raising artificial leather is made indispensable [ that a single yarn denier uses super-thin textiles of 0.5 denier or less ] in order to acquire the high grade feeling approximated to the natural leather of the surface, and the writing effect. And as for the raw material of the super-thin textiles, polyamide, such as polyester and nylon 6 in which many are represented by polyethylene terephthalate, and Nylon 66, and polyacrylic nitril are used suitably. Obtaining artificial leather of a grain tone is also already known for coating the surface, and it is widely applied to a bag, shoes, etc. at the same time it impregnates with various kinds of polymeric elastomers the base fabric for artificial leather which made woven knitted goods and a super-thin staple fiber confound.

[0003]It turns out that the character of the woven knitted goods used for the inside as a base fabric for artificial leather is large in the various characteristics of artificial leather, and these artificial leather has influenced. As woven knitted goods currently conventionally used for the base fabric for artificial leather of elegance, a polyethylene terephthalate fiber, nylon 6, the Nylon 66 textiles, etc. are used so that JP,53-122869,A, JP,57-82583,A, and JP,58-12639,A may see. However, each of these textiles proposed until now has a problem.

[0004]When using a polyethylene terephthalate fiber, aesthetic property becomes hard, and also since there is no stretchability, what is excellent in endurance is stretched, and has a problem which is a little inferior in a feeling of wear — there is admiration. When using polyamide fibers, such as nylon 6 and Nylon 66, although soft aesthetic property is attained, in order that glass transition point temperature may fall to near the room temperature, it is in the tendency for shape collapse to happen easily, in the state where there is humidity which is seen under a service condition. Since lightfastness was low, when it was used over a long period of time, there was a problem from which a colour fade-out arises inevitably. It had a problem inferior to dyeing robustness.

**[0005]**

[Problem(s) to be Solved by the Invention]. The soft aesthetic property whose natural leather appearance was [ the technical problem of this invention ] flexible and which was excellent in

drape property is revealed. The suitable base fabric for artificial leather and artificial leather to obtain the new artificial leather which exceeds greatly publicly known artificial leather of mold collapse not taking place to friction wear strongly and excelling in fashionability since it excels in the color enhancement which is excellent in feeling of wearing since it excels in stretchability are made into offer \*\*\*\*\*.

[0006]

[Means for Solving the Problem] As a result of repeating examination wholeheartedly that the above-mentioned technical problem should be solved, by applying woven knitted goods which consist of specific polyester polymer to artificial leather, with conventional artificial leather, this invention persons found out that the characteristic which is not obtained was revealed, and reached this invention. Namely, in a base fabric for artificial leather with which a super-thin staple fiber of 0.5 denier or less confounds this invention in textiles or knitting, and single fiber fineness, a base fabric for artificial leather, wherein polytrimethylene terphthalate textiles whose elastic moduli of limiting viscosity 2.5 or more g/d and ductility are 20 to 100%, and 0.4-2, and intensity are 25 - 30 g/d are used as textiles which constitute these textiles or knitting — it comes out.

[0007] Woven knitted goods used for this invention need to use polytrimethylene terphthalate textiles. By using this polymer fiber, artificial leather excellent in soft aesthetic property, abrasion resistance, stretchability, and color enhancement can be obtained. Polytrimethylene terphthalate textiles can be provided with physical properties required for a base fabric for artificial leather of this invention by selecting relevant spinning conditions. As such physical properties, it becomes the feature first that an elastic modulus is low in the first place. Even if it has suitable dynamics intensity, that an elastic modulus is low can give soft aesthetic property, when artificial leather is used.

[0008] Next, it is being able to give abrasion resistance and stretchability. Since stress can be well absorbed like a spring since it is having a greatly bent flat-surface zigzag structure, and are and it contracts easy to expand, the crystal structure of polytrimethylene terphthalate can give abrasion resistance and stretchability, when it is made into artificial leather. Next, it is being able to give good color enhancement. For example compared with a polyethylene terephthalate fiber, since polytrimethylene terphthalate textiles have the loose amorphism portion, they have the feature that a refractive index of textiles is small. Therefore, since a rate of light which reflection of light in a fiber surface decreases and is absorbed by color increases, color enhancement has the feature of becoming good. Therefore, when dark colors, such as black and brown, are required especially, vivid and deep coloring can be attained.

[0009] Here, polytrimethylene terphthalate is polymer which carries out copolymerization of the terephthalic acid to 1,3-propanediol, and is obtained. Copolymerization of the ester bond nature comonomer may be carried out to polytrimethylene terphthalate 5 or less % of the weight in the range which does not spoil an effect of this invention. As such comonomer, isophthalic acid, phthalic acid, naphthalene-2,6-dicarboxylic acid, 5-sodium sulfoisophtharate, 5-potassium sulfoisophtharate, 5-lithium sulfoisophtharate, 5-sulfoisophtharate tetrabutylphosphonium salt, 5-sulfoisophtharate tributylbenzyl phosphonium salt, oxalic acid, Succinic acid, adipic acid, sebacic acid, dodecanoic acid, dodecanedioic acid, cyclohexanedicarboxylic acid, One sort or combination beyond it, such as ethylene glycol, butanediol, hexandiol, cyclohexanediol, cyclohexane dimethanol, a trimethylene-glycol dimer, and polyalkylene glycol of the average molecular weights 400-20000, are illustrated.

[0010] Various kinds of additive agents which do not carry out copolymerization, for example, a flattening, a thermostabilizer, a defoaming agent, a ready coloring material, fire retardant, an antioxidant, an ultraviolet ray absorbent, an infrared absorption agent, a nucleus agent, a fluorescent brightener, etc. may be copolymerized or mixed if needed. limiting viscosity [ $\eta$ ] of polytrimethylene terphthalate textiles used for this invention — 0.4-2 — desirable — 0.5-1.5 — it is 0.6-1.2 still more preferably. In this range, textiles excellent in intensity and spinning nature can be obtained. When limiting viscosity is less than 0.4, since melt viscosity of polymer is too low, intensity of textiles obtained by spinning becoming unstable will also be low, and strength of artificial leather obtained will become low. Conversely, when limiting viscosity exceeds 2.0, since

melt viscosity is too high, melt fracture and poor spinning arise at the time of spinning. [0011] As for 30–200 deniers, as single fiber fineness, in order to reveal moderate soft nature, 0.05–5 deniers is preferred [ polytrimethylene terephthalate textiles used for this invention are multifilament, and ] as the total fineness. Restrictions, such as a round shape, a triangular form, flatness, and a star shape, may not have sectional shape of a single fiber, and it may be inner substance textiles, or may be a hollow fiber.

[0012] A twist may be given to polytrimethylene terephthalate textiles which constitute woven knitted goods of a base fabric for artificial leather. Preferably, 100 to 3000 T/m, a number of twist is 100 – 1500 T/m still more preferably, and can give high stretchability to artificial leather. Polytrimethylene terephthalate textiles used for this invention require that physical properties should show the following values, and artificial leather excellent in soft aesthetic property, abrasion resistance, stretchability, and color enhancement is obtained. Intensity is 2.5 or more g/d. In less than 2.5 g/d, intensity is not preferred in order for intensity of artificial leather to fall. Ductility is 20 to 100%. If less than 20% of thing does not exist since ductility of a polymer crystal is 20%, but 100% is exceeded, knitting and weaving are carried out, and a possibility that a muscle goes into a hard textile, or excessive contraction will take place and a hand will become hard becomes high, and it is not preferred. An elastic modulus is 25 – 30 g/d, and it becomes possible to give soft aesthetic property and stretchability to artificial leather in this range. A 20% extension recovery factor is 70 to 95%, and it becomes possible to give good stretchability in this range.

[0013] Polytrimethylene terephthalate textiles used for this invention can be made into woven knitted goods using a publicly known method, and can be used as a base fabric for artificial leather. Textiles may be used for both warp and the woof, or may use polytrimethylene terephthalate textiles for warp or the woof. When using it for both warp and the woof, it becomes the thing excellent in soft aesthetic property, abrasion resistance, stretchability, and color enhancement, and is especially desirable. When it is used only for warp or the woof, it becomes what passes and differs in the ease of bending of a direction and a latitudinal direction, and becomes artificial leather with the interesting feature. If organizations of textiles are cloth construction, such as a plain weave, twill, satin, and \*\*\*\*\*\*, they can apply each to this invention intrinsically, but a cost aspect and a process side to their plain weave is the most preferred for the purpose of this invention. fabric density of a plain weave — the circumstances same number and a different number — any may be sufficient. Although it naturally changes with fineness of warp and the woof, fabric density is preferred at a point provided with dimensional stability and manufacture stability, maintaining aesthetic property with an inch soft in 40–70 [ / ], when using polytrimethylene terephthalate textiles of 100d/48f·30d/6f, for example.

[0014] If polytrimethylene terephthalate textiles are used 100%, in knitting, it becomes a hand nearest to natural leather, and it is especially preferred. As an organization of knitting, restriction in particular does not have tricot, Russell, a round braid, etc., and they can use arbitrary organizations according to the purpose. A base fabric for artificial leather of this invention is characteristic in polytrimethylene terephthalate textiles being used as textiles from which a super-thin staple fiber of 0.5 denier or less comes to confound, and textiles or knitting, and single fiber fineness constitute these textiles or knitting. As a gestalt of confounding, although textiles or knitting, and a super-thin staple fiber may be entangled with three dimensions mutually, the fiber bundles for which these staple fibers gathered could become entangled mutually in three dimensions, and they may be [ this staple fiber and its fiber bundle may be intermingled, and ] entangled.

[0015] As polymer which constitutes a super-thin staple fiber, there is no restriction in particular and Polyethylene terephthalate, Synthetic fibers, such as polytrimethylene terephthalate, polybutylene terephthalate, nylon 6, Nylon 66, and polyacrylonitrile, rayon, cuprammonium rayon rayon, etc. are applied preferably. Single fiber fineness of a super-thin staple fiber needs to be 0.5 denier or less. If single fiber fineness exceeds 0.5 denier, surface grace and a feeling of a feel of artificial leather become crude, the good writing effect not only not being acquired, either but a hand becomes hard, a surface raising fiber becomes easy to produce a pilling also undesirably and in abrasion resistance, and it is not desirable. Although single fiber fineness becomes so

good [ a hand of nap-raising artificial leather, a surface touch, the writing effect, etc. ] that it is small, if it becomes not much thin, single yarn strength of a super-thin staple fiber will become extremely weak, and it produces a fault in which the surface wears out easily by wear, and is not preferred. Desirable single fiber fineness of a super-thin staple fiber is 0.001~0.2 denier, and is 0.05~0.15 denier most preferably 0.01~0.2 denier still more preferably.

[0016]The base fabric for artificial leather of this invention can give omission prevention of a super-thin staple fiber, dimensional stability, and moderate rigidity to an inside by carrying out impregnating grant of the polymeric elastomer, and can use them as artificial leather. After textiles or knitting, and single fiber fineness impregnate with a polymeric elastomer a structure which a super-thin staple fiber of 0.5 denier or less confounds, artificial leather of this invention can nap a surface layer, and can obtain nap-raising artificial leather of a suede tone. That is, artificial leather obtained is nap-raising artificial leather, wherein it has the fiber layer constituted by a super-thin staple fiber becoming entangled actively on at least one surface and this surface is napped. Therefore, in this case, a polymeric elastomer will not recognize real existence at the outermost superficial layer, but it will exist only in an inside.

[0017]Artificial leather of the grain tone surface is obtained by coating the surface with a polymeric elastomer. As a polymeric elastomer, polymeric elastomers, such as synthetic rubbers, such as a polyurethane elastic body, an acrylic nitril butadiene copolymer, a styrene butadiene copolymer, polybutadiene, and a neoprene, and polyacrylic ester, can be used. A desirable impregnating grant rate of a polymeric elastomer to artificial leather is 3 to 20 % of the weight, and is 5 to 15 % of the weight especially preferably four to 20% of the weight still more preferably.

[0018]In conventional nap-raising artificial leather, a polyurethane elastic body can use it conveniently in the above-mentioned polymeric elastomer for obtaining nap-raising artificial leather with advanced soft nature never obtained and abrasion resistance. As a polyol ingredient, for example, polyethylene adipate glycol, Polyesterdiol, such as polybutylene horse mackerel peat glycol. A polyethylene glycol (PEG), a polypropylene glycol (PPG), Polyether glycol, such as polytetramethylene glycol (PTMG). Can apply polycarbonatediol (PCG) and as an isocyanate component Aromatic isocyanates (MDI), such as the diphenylmethane 4 and 4'-diisocyanate, Alicyclic follows isocyanates, such as the dicyclohexyl methane-4 and 4"-diisocyanate (H12-MDI), Aliphatic series JIISO cerates, such as a hexamethylene isocyanate (HMDI), etc. are used. Alcohol of diamine, such as glycols, such as ethylene glycol, ethylenediamine, 4, and 4'-diaminodiphenylmethane, and also three organic functions, amine, etc. can be suitably chosen as a chain extension agent.

[0019]A moisture powder type polyurethane elastic body obtained from an above-mentioned polyol ingredient, a diisocyanate component, and a chain extension agent by a compulsive emulsion polymerization method has a strong retention span of textiles. When impregnating grant is carried out in an organization gap of a base fabric for artificial leather with which woven knitted goods are embedded by one in an internal layer region or a back layer region, It becomes possible to hold down an impregnating grant rate of this moisture powder type polyurethane to 3 to 20% of the weight of a range, and nap-raising artificial leather which was excellent in flexible aesthetic property and dimensional stability in if it has advanced abrasion resistance can be obtained. In this case, a desirable impregnating grant rate to artificial leather of a moisture powder type polyurethane elastic body is 5 to 12 % of the weight still more preferably four to 15% of the weight.

[0020]As a moisture powder type poly RETAN elastic body, more preferably, a polyether system obtained from polyether glycol, such as PPG and PTMG, HMDI, H12-MDI, etc. —less — yellowing — a polyurethane elastic body, or a polycarbonate system —less — yellowing — a polyurethane elastic body can use for this invention conveniently from performance of the heat resistance, hot water resistance, and lightfastness. It is also preferred to use together an antioxidant as a heat-resistant improver, light stabilizer, etc. to said moisture powder type polyurethane elastic body. These additive agents can also be added at both processes, even if it adds at the time of a polymerization of drainage system polyurethane and adds in the state of an emulsion after the completion of a polymerization. Although there are generally a hindered amine

system, a hindered phenol system, and a hydrazine system as an antioxidant, an effect excellent in especially a thing of the amount grade of polymers of a hindered amine system is demonstrated.

[0021]A manufacturing method of artificial leather of this invention is explained taking the case of nap-raising artificial leather. Single fiber fineness makes them a super-thin fiber web with wet process, after cutting super-thin textiles of 0.5 denier or less into a super-thin staple fiber of 20 mm or less, textiles or knitting which consists of polytrimethylene terphthalate textiles is inserted between these two super-thin fiber webs, confounding unification is carried out by needle punch or a high-pressure-water style, and a base fabric for artificial leather of this invention is obtained — things can be carried out. After a sandpaper etc. perform buffing processing for the surface of this base fabric for artificial leather and making the surface nap, it is impregnated and wet coagulation of the solution type polyurethane elastic body which carried out impregnating desiccation of the emulsion of a moisture powder type Pori Utan elastic body, or dissolved in solvents, such as DMF, is carried out. Artificial leather of this invention can be obtained by carrying out post processing, such as dyeing processing and an antielectric water-repellent finish, to the last.

[0022]Or when using for a super-thin staple fiber polymer in which melt spinning is possible, by the melt blowing method. A super-thin fiber web whose degree of average textiles for which it asked by calculation is 0.001–0.05 denier is obtained from even \*\*\*\*\* and fiber density, Similarly textiles or knitting which consists of this super-thin fiber web and polytrimethylene terphthalate textiles The needle punch method, A base fabric for artificial leather of this invention can be obtained by a thing to depend on a fluid confounding method by a high-pressure-water style and which is made to become entangled in three dimensions, and artificial leather can be successingly obtained also by a method of impregnation treatment of the same polymeric elastomer as the above-mentioned.

[0023]Plock polyether polyethylene terephthalate polymer to which super-thin textiles carried out copolymerization of the PEG 10% of the weight or more, Or it can obtain by using polystyrene etc. as a sea component, carrying out melt spinning of the sea island textiles which use as an island component polymer in which melt spinning is possible, and carrying out dissolution removal of block copolymerization ester or the polystyrene by a heat alkaline aqueous solution or trichloro ECHIREREN 2 to 5%. In this way, obtained super-thin textiles can also obtain a base fabric for artificial leather of this invention by the same method as super-thin textiles directly obtained by a spinning method after cutting into a super-thin staple fiber of 20 mm or less as mentioned above. This bicomponent fiber is cut into a 20–80-mm super-thin staple fiber before carrying out super-thin-ized processing, A bicomponent fiber web is formed with dry methods, such as the publicly known card method and the air lei method, . [ whether textiles or knitting which consists of polytrimethylene terphthalate textiles is laminated in a back layer part, and ] Or it can confound in three dimensions with the needle punch method and a pillar-shaped style confounding method, without laminating, a base fabric for artificial leather of this invention can be obtained as well as the above-mentioned, and artificial leather can be obtained by impregnation treatment of a polymeric elastomer.

[0024]As an option, super-thin textiles make the 1st ingredient polymer in which melt spinning is possible, A bicomponent fiber arranged to a petal type (for example, five to 10 division) as the 2nd ingredient of polymer in which another melt spinning is possible is obtained, Cut this bicomponent fiber into a length of 10 mm, insert textiles or knitting which consists of polytrimethylene terphthalate textiles between these two sheets after forming a paper-milling sheet with wet process, and by pillar-shaped style confounding processing etc. super-thin textiles \*\*\*\* which divides a bicomponent fiber and consists of polymer whose single fiber fineness is two kinds of 0.5 denier or less — things are made, by confounding in three dimensions simultaneously as well as the above-mentioned, a base fabric for artificial leather of this invention can be obtained, and artificial leather can be obtained.

[0025]How to manufacture artificial leather of this invention as mentioned above was described.  
[0026]

[Embodiment of the Invention]The following example explains this invention. The measuring

method of each measured value used during explanation of an example is as follows.

(1) Limiting viscosity limiting viscosity [ $\eta_a$ ] is a value calculated based on the following definitional equation.

[0027]

[Equation 1]

$$[\eta] = \lim_{C \rightarrow 0} 1 / (C \times (\eta_r - 1))$$

[0028] Part of a definitional equation is the value which broke the viscosity in 35 \*\* of the diluted solution of the polyester polymer which dissolved by the o-chlorophenol of not less than 98% of purity by viscosity of the above-mentioned solvent itself measured at the same temperature, and is defined as relative viscosity. C is a solute weight value by the gram unit in 100 ml of the above-mentioned solutions.

(2) Strong ductility and the strong ductility of 20% extension recovery-factor textiles were measured according to JIS-L-1013.

(3) The softness of the degree artificial leather of adaptability was measured in accordance with the JIS-L1079-A method (the 45-degree cantilever method) as a degree of adaptability.

(4) The abrasion resistance of wear-resistant artificial leather was measured according to JIS-L-1096 (the Martin Dale method).

(5) Stretchability profitable \*\*\*\* artificial leather was pulled and an extension recovery factor of artificial leather evaluated by a pace of expansion used as not less than 90%.

[0029]

both directions of the circumstances — more than 10% of pace-of-expansion: — the direction of O \*\* — not less than 10% of pace of expansion : Pace of expansion not more than O it : x (6) color enhancement (examination of whether to have been dyed a dark color)

180 \*\* of obtained artificial leather was dyed under pH 5 and dispersing agent existence using a disperse dye using KAYARON polyester blue 3RSF(made by Nippon Kayaku Co., Ltd.)10%owf for 130 \*\* and 60 minutes, after carrying out a dry heat set for 30 seconds. After dyeing, it rinsed and a final set was performed in 180 \*\* and 30 seconds.

[0030] In this way, a three-stage (O, O, \*\*\*) estimated the color enhancement of an obtained dyeing thing.

[0031]

[Work example 1] a law from 1,3-propanediol and dimethyl phthalate — it polymerized by a method and [ $\eta_a$ ] obtained polytrimethylene terphthalate polymer of 0.7. It extruded by a part for 11.7g of discharge quantity/using a spinning port which has this polytrimethylene terphthalate polymer at spinning temperature of 280 \*\*, and has a hole of 350 holes by 0.1 mm in the aperture phi. It cooled having turned cooling wind blows to a spinning port side, and spraying them directly under a spinning port, and a superfine multifilament undrawn yarn was obtained by a part for coiling speed/of 1200 m. Then, an obtained undrawn yarn was extended by one 2.5 times the draw magnification of this, and a full oriented yarn of 100d/48f was obtained. As for intensity of obtained textiles, 4.2 g/d and ductility were 30% and 25 g/d and 20% extension recovery factor of an elastic modulus were [ priming contraction ] 13% 88%. Using what [ T/m / what / 2500 times / these textiles ], density created in 55 [/inch ] and, in the circumstances, eyes created a plain weave fabric (base fabric for artificial leather) of 80 g/m<sup>2</sup>.

[0032] After cutting the super-thin textiles of the polyethylene terephthalate fiber of 35d/350f in length of 5 mm, it was made to distribute underwater and the slurry for paper milling the object for surfaces and for linings was made. It was considered as surface 100g/m eyes<sup>2</sup> and lining 50g/m eyes<sup>2</sup>, and the textiles of the above-mentioned polytrimethylene terphthalate textiles were inserted, it was considered as the laminated-structure fibrous sheet, and, subsequently the three-dimensional confounding nonwoven fabric was obtained by injection of the high-speed stream. A high-speed stream by a rectilinear-propagation style injection nozzle with the aperture phi of 0.15 mm From a surface to 40kg/[cm ]<sup>2</sup>. The wire gauze of 60 meshes was inserted between the empress and sheet which were processed by the pressure of 30kg/[cm ]<sup>2</sup> from the

lining, and the nozzle, it processed by water pressure 25 kg/cm<sup>2</sup>, and desiccation, eyes 200 g/m<sup>2</sup>, and a 0.8-mm-thick nonwoven sheet like object were continuously manufactured by the pin tenter.

[0033] After carrying out buffing of the surface for this sheet like object with the emery paper of #400, sodium sulfate was added as a thermal coagulant by the emulsion 7% concentration of Japanese flower chemicals company make and EBAFA Norian AP-12 (compulsive emulsification type non-ion system polyether —less— yellowing—the polyurethane elastic body of a type), and impregnating liquid was prepared. It extracted with mangle that a rate of impregnation would be 160%, and deposit efficiency was doubled. Subsequently, stoving was continuously carried out in 130 \*\* and 3 minutes with the pin tenter dryer. This artificial leather original fabric was dyed using the jet dyeing machine. The obtained nap-raising artificial leather had the advanced abrasion resistance which has the surface grace of the soft feeling of a feel with flexible aesthetic property and a high grade feeling, and the outstanding writing effect, and is not in the former, stretchability, and color enhancement. The performance data of this artificial leather was shown in Table 1.

[0034]

[Work example 2] Except that density replaced textiles with warp-knitted fabrics of 28 gauges / inch, it repeated like Example 1. Although pliability was a little inferior to artificial leather of Example 1, it had advanced abrasion resistance, stretchability, and color enhancement.

[0035]

[Work example 3] As a super-thin staple fiber, it repeated like Example 1 except having used polytrimethylene terphthalate textiles. The obtained artificial leather was softer than Example 1, and showed high stretchability.

[0036]

[Work example 4] Only warp was repeated like Example 1 except having used the polyethylene terephthalate fiber of 100d/48f of intensity 5.2 g/d, 26% of ductility, and elastic-modulus 110 g/d. That to which softness is inferior to artificial leather of Example 1 in the obtained artificial leather, and moderate rigidity are excellent.

Sufficient stretchability for a latitudinal direction was shown.

[0037]

[Comparative example 4] Instead of the textiles of polytrimethylene terphthalate textiles, it repeated like Example 1 except having used the textiles of the polyethylene terephthalate fiber. The obtained artificial leather was hard compared with artificial leather of Example 1, and stretchability was hardly shown. Since color enhancement was lower than polytrimethylene terphthalate textiles, color enhancement was falling [the polyethylene terephthalate fiber].

[0038]

[Table 1]

	縫織物に用いる繊維	縫織物の種類	縫織物の密度	柔軟度	ストレッチ性	耐磨耗性	発色性
			本／吋又はゲージ	mm		回	
実施例 1	ポリトリメチレンテレフタレート	織物	経緯：5.5	3.3	○	4万	○
実施例 2	ポリトリメチレンテレフタレート	織物	2.6ゲージ	3.8	○	3.5万	○
実施例 3	ポリトリメチレンテレフタレート	織物	経緯：5.5	2.5	○	3.8万	○
比較例 1	ポリチレンテレフタレート	織物	経緯：5.5	4.2	×	4万	△

[0039]

[Effect of the Invention] Since the base fabric for artificial leather which comprised polytrimethylene terphthalate textiles which are low elastic moduli, and were excellent in stretchability, and were moreover excellent in the dye affinity is used for artificial leather of this invention, it has the soft aesthetic property which is not looked at by conventional artificial leather, abrasion resistance, stretchability, and color enhancement.

---

[Translation done.]